

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-6. (Canceled)

7. (Original) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor;

an interlayer insulating film comprising resin formed over said plurality of switching elements wherein said pixel electrodes are provided over said interlayer insulating film;

a driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors,

wherein all of the first thin film transistors and the second thin film transistors are NTFTs.

8. (Original) The display device according to claim 7 wherein said display device is a liquid crystal device.

9. (Original) The display device according to claim 7 further comprising another driver circuit comprising IC chips electrically connected to said plurality of second lines.

10. (Original) The display device according to claim 7 wherein said first thin film transistor has a channel region comprising crystalline silicon and a concentration of oxygen in said channel region is not higher than 7×10^{19} atoms/cm³.

11. (Original) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor;

a driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors, each of said first and second thin film transistors comprising:

a semiconductor film formed over said substrate having at least source, drain and channel regions wherein said semiconductor film contains oxygen at a concentration not higher than 7×10^{19} atoms/cm³;

a gate insulating film adjacent said semiconductor film; and

a gate electrode adjacent said channel region with the gate insulating film interposed therebetween,

wherein all of the first thin film transistors and the second thin film transistors are NTFTs.

12. (Original) The display device according to claim 11 wherein said display device is a liquid crystal device.

13. (Original) The display device according to claim 11 further comprising another driver circuit comprising IC chips electrically connected to said plurality of second lines.

14. (Original) The display device according to claim 11 wherein said gate electrode is located over said channel region.

15. (Original) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor;

an interlayer insulating film comprising resin formed over said plurality of switching elements wherein said pixels electrodes are provided over said interlayer insulating film;

a driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors, each of said first and second thin film transistors comprising:

a semiconductor film comprising silicon formed over said substrate having at least source, drain and channel regions;

a gate insulating film formed on said semiconductor film; and

a gate electrode over said channel region with the gate insulating film interposed therebetween,

wherein all of the first thin film transistors and the second thin film transistors are NTFTs.

16. (Original) The display device according to claim 15 wherein said display device is a liquid crystal device.

17. (Original) The display device according to claim 15 further comprising another driver circuit comprising IC chips electrically connected to said plurality of second lines.

18. (Original) The display device according to claim 15 wherein said semiconductor film contains oxygen at a concentration not higher than 7×10^{19} atoms/cm³.

19.-25. (Canceled)

26. (Original) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor;

an interlayer insulating film comprising resin formed over said plurality of switching elements wherein said pixel electrodes are provided over said interlayer insulating film;

a driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors,

wherein all of the first thin film transistors and the second thin film transistors are PTFTs.

27. (Original) The display device according to claim 26 wherein said display device is a liquid crystal device.

28. (Original) The display device according to claim 26 further comprising another driver circuit comprising IC chips electrically connected to said plurality of second lines.

29. (Original) The display device according to claim 26 all of the first thin film transistors and the second thin film transistors are top-gate type.

30. (Original) The display device according to claim 26 wherein said first thin film transistor has a channel region comprising crystalline silicon having an oxygen concentration not higher than 7×10^{19} atoms/cm³.

31. (New) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first lines;

an interlayer insulating film comprising resin formed over said plurality of switching elements wherein said pixel electrodes are provided over said interlayer insulating film;

a first driver circuit formed over said substrate and electrically connected to said plurality of first lines, said first driver circuit comprising a plurality of second thin film transistors,

wherein all of the first thin film transistors and the second thin film transistors are TFTs.

32. (New) The display device according to claim 31 wherein said display device is a liquid crystal device.

33. (New) A display device comprising:
a substrate having an insulating surface;
a plurality of first lines extending in a first direction over said substrate;
a plurality of second lines extending across said first lines over said substrate;
a plurality of pixels defined by said first lines and said second lines;
a plurality of pixel electrodes provided at said pixels;
a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first lines;
an interlayer insulating film comprising resin formed over said plurality of switching elements wherein said pixel electrodes are provided over said interlayer insulating film;
a first gate driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors;
a second driver circuit comprising an IC chip electrically connected to said plurality of second lines.

34. (New) The display device according to claim 33 wherein said display device is a liquid crystal device.

35. (New) A display device comprising:
a substrate having an insulating surface;
a plurality of first lines extending in a first direction over said substrate;
a plurality of second lines extending across said first lines over said substrate;
a plurality of pixels defined by said first lines and said second lines;
a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first lines;

an interlayer insulating film comprising resin formed over said plurality of switching elements wherein said pixel electrodes are provided over said interlayer insulating film;

a first driver circuit formed over said substrate and electrically connected to said plurality of first lines, said first driver circuit comprising a plurality of second thin film transistors,

wherein all of the first thin film transistors and the second thin film transistors are TFTs.

36. (New) The display device according to claim 35 wherein said display device is a liquid crystal device.

37. (New) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first lines;

an interlayer insulating film comprising resin formed over said plurality of switching elements wherein said pixel electrodes are provided over said interlayer insulating film;

a first gate driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors;

a second driver circuit comprising an IC chip electrically connected to said plurality of second lines.

38. (New) The display device according to claim 37 wherein said display device is a liquid crystal device.

39. (New) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first lines;

a first driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors, each of said first and second thin film transistors comprising:

a semiconductor film formed over said substrate having at least source, drain and channel regions wherein said semiconductor film contains oxygen at a concentration not higher than 7×10^{19} atoms/cm³;

a gate insulating film adjacent said semiconductor film; and

a gate electrode adjacent said channel region with the gate insulating film interposed therebetween,

wherein all of the first thin film transistors and the second thin film transistors are TFTs.

40. (New) The display device according to claim 39 wherein said display device is a liquid crystal device.

41. (New) The display device according to claim 39 wherein said gate electrode is located over said channel region.

42. (New) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first lines;

a first driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors, each of said first and second thin film transistors comprising:

a semiconductor film formed over said substrate having at least source, drain and channel regions wherein said semiconductor film contains oxygen at a concentration not higher than 7×10^{19} atoms/cm³;

a gate insulating film adjacent said semiconductor film; and

a gate electrode adjacent said channel region with the gate insulating film interposed therebetween; and

a second driver circuit comprising IC chips electrically connected to said plurality of second lines.

wherein all of the first thin film transistors and the second thin film transistors are NTFTs.

43. (New) The display device according to claim 42 wherein said display device is a liquid crystal device.

44. (New) The display device according to claim 42 wherein said gate electrode is located over said channel region.

45. (New) The display device according to claim 42 wherein said display device is a liquid crystal device.

46. (New) The display device according to claim 42 wherein said gate electrode is located over said channel region.

47. (New) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first lines;

a first driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors, each of said first and second thin film transistors comprising:

a semiconductor film formed over said substrate having at least source, drain and channel regions wherein said semiconductor film contains oxygen at a concentration not higher than 7×10^{19} atoms/cm³;

a gate insulating film adjacent said semiconductor film; and

a gate electrode adjacent said channel region with the gate insulating film interposed therebetween,

wherein all of the first thin film transistors and the second thin film transistors are TFTs.

48. (New) The display device according to claim 47 wherein said display device is a liquid crystal device.

49. (New) The display device according to claim 47 wherein said gate electrode is located over said channel region.

50. (New) A display device comprising:

a substrate having an insulating surface;

a plurality of first lines extending in a first direction over said substrate;

a plurality of second lines extending across said first lines over said substrate;

a plurality of pixels defined by said first lines and said second lines;

a plurality of pixel electrodes provided at said pixels;

a plurality of switching elements provided at said pixels, each of said switching elements comprising at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first lines;

a first driver circuit formed over said substrate and electrically connected to said plurality of first lines, said driver circuit comprising a plurality of second thin film transistors, each of said first and second thin film transistors comprising:

a semiconductor film formed over said substrate having at least source, drain and channel regions wherein said semiconductor film contains oxygen at a concentration not higher than 7×10^{19} atoms/cm³;

a gate insulating film adjacent said semiconductor film; and

a gate electrode adjacent said channel region with the gate insulating film interposed therebetween; and

a second driver circuit comprising IC chips electrically connected to said plurality of second lines,

wherein all of the first thin film transistors and the second thin film transistors are PTFTs.

51. (New) The display device according to claim 50 wherein said display device is a liquid crystal device.

52. (New) The display device according to claim 50 wherein said gate electrode is located over said channel region.

53. (New) The display device according to claim 50 wherein said display device is a liquid crystal device.

54. (New) The display device according to claim 50 wherein said gate electrode is located over said channel region.